





### Thermostat

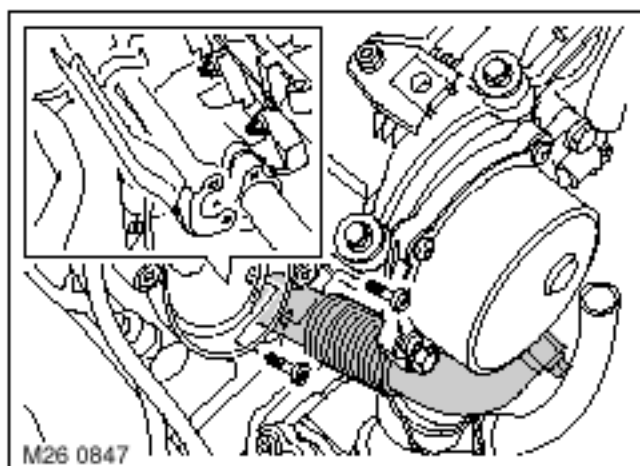
26.45.01

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

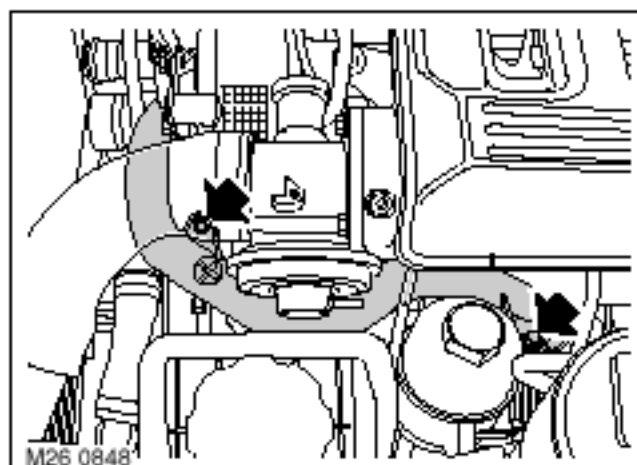
 **GENERAL INFORMATION, Electrical Precautions.**

#### Remove

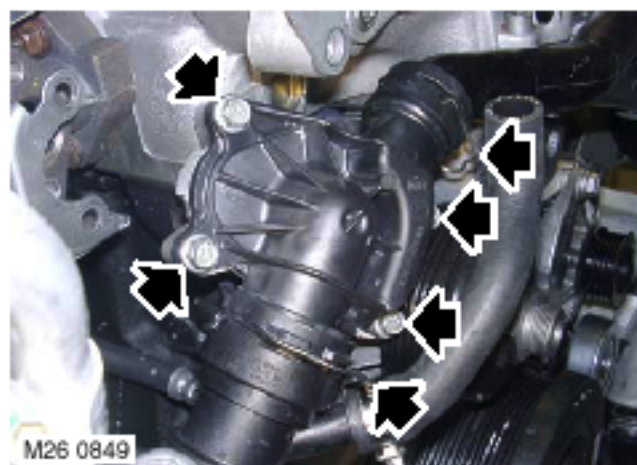
1. Disconnect battery earth lead.
2. Drain cooling system.  
 **COOLING SYSTEM - Td6, ADJUSTMENT, Coolant - drain and refill.**
3. Remove engine acoustic cover.  
 **ENGINE - Td6, REPAIRS, Acoustic cover - engine.**
4. Remove turbocharger intake duct.  
 **ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Duct- intake - turbocharger.**
5. Remove EGR cooler.  
 **EMISSION CONTROL - Td6, REPAIRS, Cooler - exhaust gas recirculation (EGR).**



6. Remove 2 Torx screws securing heat shield and EGR pipe to exhaust manifold.
7. Move heat shield clear of EGR pipe flange.
8. Remove EGR pipe.




9. Remove 2 bolts securing coolant rail.



10. Release clip and disconnect coolant rail from thermostat housing.
11. Release clip and disconnect radiator bottom hose from thermostat housing.
12. Remove 4 bolts and remove thermostat housing from coolant pump. Discard seal.

#### Refit

1. Clean thermostat housing and mating faces.
2. Fit thermostat housing and tighten bolts to 8 Nm (6 lbf.ft).
3. Fit bottom hose and secure with clip.
4. Fit coolant rail and secure with clip.
5. Fit bolts securing coolant rail and tighten to 10 Nm (7 lbf.ft).
6. Clean EGR pipe and mating face.
7. Fit EGR pipe, align heat shield and fit Torx bolts but do not tighten at this stage. Torx bolts to be tightened to 25 Nm (18 lbf.ft) when EGR cooler is fitted.
8. Fit EGR cooler.  
 **EMISSION CONTROL - Td6, REPAIRS, Cooler - exhaust gas recirculation (EGR).**



9. Fit turbocharger intake duct.  
 **ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Duct- intake - turbocharger.**
10. Fit engine acoustic cover.  
 **ENGINE - Td6, REPAIRS, Acoustic cover - engine.**
11. Connect battery earth lead.
12. Refill cooling system.  
 **COOLING SYSTEM - Td6, ADJUSTMENT, Coolant - drain and refill.**




## Coolant pump and thermostat

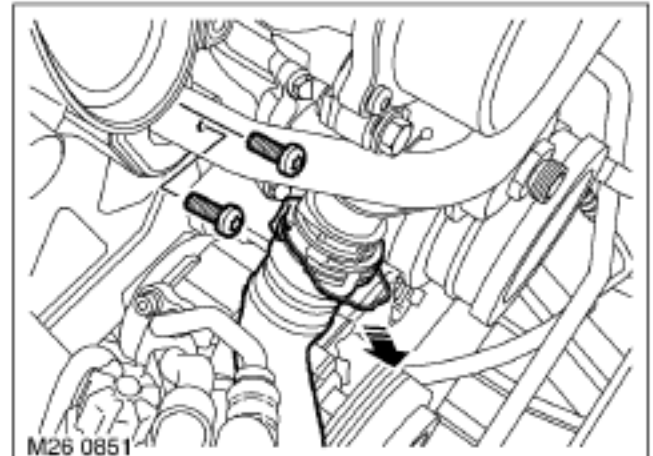
 **26.50.01**

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

 **GENERAL INFORMATION, Electrical Precautions.**

### Remove

1. Disconnect battery earth lead.
2. Remove turbocharger intake duct.  
 **ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Duct- intake - turbocharger.**
3. Remove EGR cooler.  
 **EMISSION CONTROL - Td6, REPAIRS, Cooler - exhaust gas recirculation (EGR).**
4. Remove ancillary drive belt.  
 **CHARGING AND STARTING, REPAIRS, Ancillary drive belt - Td6.**




5. Disconnect radiator bottom hose from thermostat housing. Move hose aside for access.
6. Remove 2 Torx screws securing heat shield and EGR pipe to exhaust manifold.
7. Move heat shield clear of EGR pipe flange.
8. Remove EGR pipe.
9. Disconnect expansion tank hose from coolant rail.



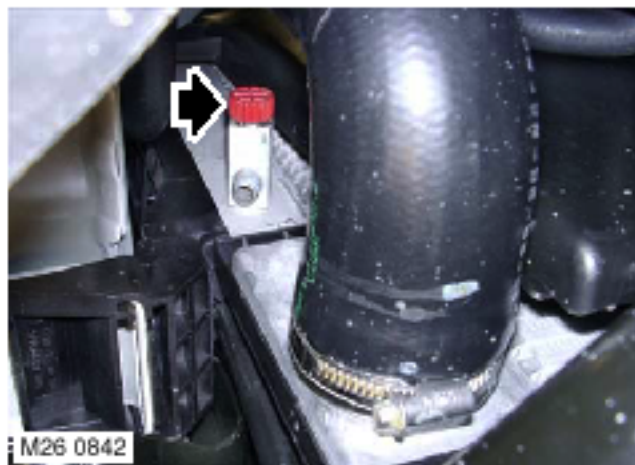
## Coolant - drain and refill

26.10.01

### Drain

1. Position vehicle on lift.
2. Set heater controls to maximum.
3. Disconnect battery earth lead.
4. Remove engine access cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
5. Position container to collect coolant.
6. Remove coolant expansion tank cap.

**WARNING:** Since injury such as scalding could be caused by escaping steam or coolant, do not remove the filler cap from the coolant expansion tank while the system is hot.



7. Fit tube to drain tap.
8. Open drain tap and collect coolant.  
**CAUTION:** Engine coolant will damage paint finished surfaces. If spilled, immediately remove coolant and clean area with water.

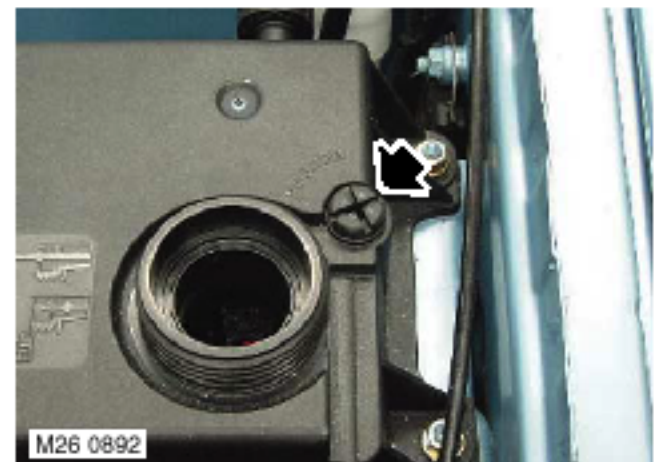


9. Remove cylinder block drain plug. Discard sealing washer.
10. Collect coolant.

### Refill

1. Clean cylinder block mating face and drain plug.
2. Using a new sealing washer, fit cylinder block drain plug and tighten to 25 Nm (18 lbf.ft).
3. Close radiator drain tap and remove tube.
4. Cover alternator to prevent fluid contamination.



**CAUTION:** Care must be taken to ensure that oil or fluid does not enter or contaminate the alternator.



5. Remove bleed screw from expansion tank.
6. Remove coolant bleed screws from coolant rail and EGR cooler.
7. Fill cooling system.
8. Close bleed screws to coolant rail and EGR cooler when a constant stream of coolant is emitted.
9. Remove cover from alternator.
10. Connect battery earth lead.
11. Connect exhaust extractor to tail pipes.


## COOLING SYSTEM - TD6

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12. Start engine, bleed air from cooling system and allow engine to reach operating temperature.
13. Fit and close expansion tank bleed screw when a constant flow of coolant is emitted.
14. Visually check engine and cooling system for signs of coolant leaks.
15. Disconnect battery earth lead.
16. Wipe coolant from chassis and surrounding area.
17. Fit engine access cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
18. Top up cooling system.  
 **MAINTENANCE, PROCEDURES, Cooling system.**
19. Connect battery earth lead.



**Refit**

1. Fit padding to acoustic cover and secure with clips.
2. Fit acoustic cover and tighten Allen bolt to 5 Nm (3.7 lbf.ft).
3. Fit engine access cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
4. Connect battery earth lead.

**Cover - engine access**

 **12.37.04**

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

 **GENERAL INFORMATION, Electrical Precautions.**

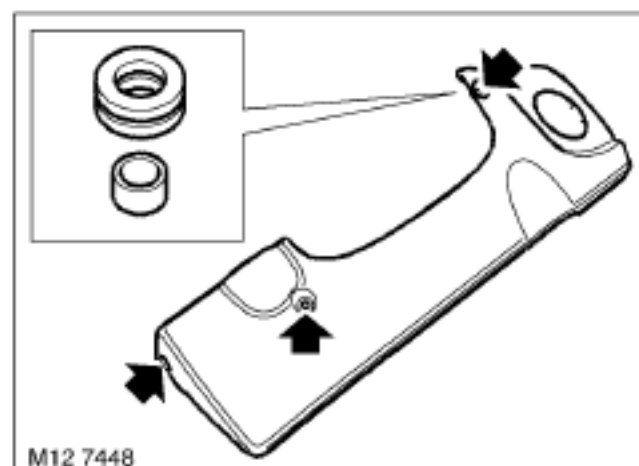
**Remove**

1. Disconnect battery earth lead.

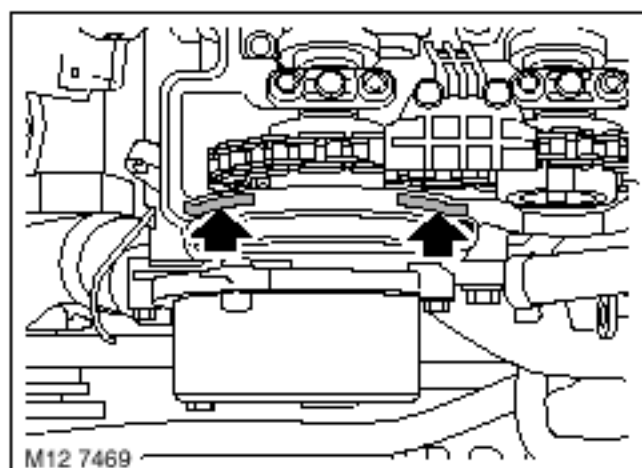


2. Remove 3 Allen screws securing engine access cover and remove cover.

*NOTE: Do not carry out further dismantling if component is removed for access only.*



3. Remove compression limiters and grommets from engine access cover.



## Acoustic cover - engine

12.30.50

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

**GENERAL INFORMATION, Electrical Precautions.**

### Remove

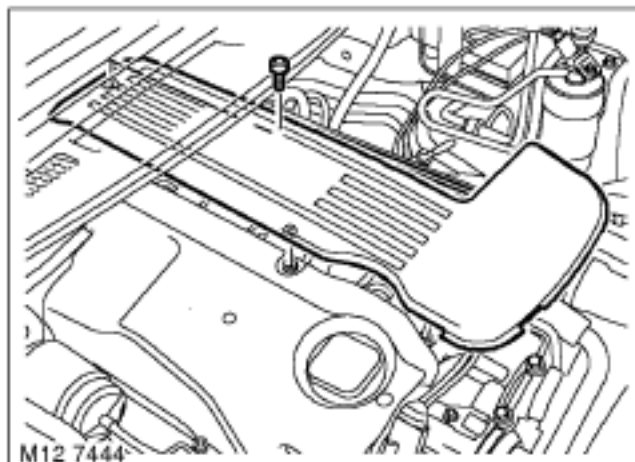
1. Disconnect battery earth lead.
2. Remove engine access cover.

**ENGINE - Td6, REPAIRS, Cover - engine access.**

3. Apply a bead of sealant 2 mm high and 2 mm wide to gasket mating face on cylinder head as shown.
4. Fit camshaft cover and tighten bolts evenly to 10 Nm (7 lbf.ft).
5. Fit grommet to fuel rail.
6. Fit engine harness to clips.
7. Secure fuel return hose and harness to camshaft cover.
8. Secure vacuum hose to camshaft cover and connect to vacuum manifold.
9. Fit clip to secure vacuum hose and harness to vacuum pipe.
10. Connect multiplug to MAF/IAT sensor.
11. Connect multiplug to CMP sensor.
12. Fit injectors.

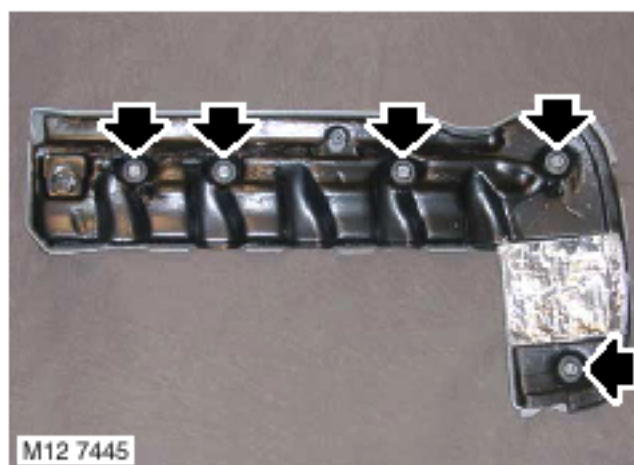
**ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Injector.**

13. Connect battery earth lead.



3. Remove Allen screw securing acoustic cover, release clip and remove cover.

*NOTE: Do not carry out further dismantling if component is removed for access only.*



4. Remove 5 clips securing acoustic padding to cover.



8. Tighten turbocharger support bracket bolts to 25 Nm (18 lbf.ft).
9. Fit turbocharger drain hose and tighten clips.
10. Fit access plate to heat shield.
11. Fit grommets to filter housing.
12. Clean turbocharger oil feed pipe and banjo bolt.
13. Use new sealing washers, align oil feed pipe and tighten banjo bolt to 25 Nm (18 lbf.ft).
14. Connect vacuum hose to wastegate control valve.
15. Connect intercooler hose and tighten clip.
16. Fit engine harness to clips.
17. Fit turbocharger intake duct.

**ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Duct- intake - turbocharger.**

18. Fit air filter element.

**ENGINE MANAGEMENT SYSTEM - Td6, REPAIRS, Element - air cleaner.**

19. Fit exhaust front pipe.

**MANIFOLD AND EXHAUST SYSTEM - Td6, REPAIR, Front pipe.**

20. Connect battery earth lead.

## Duct- intake - turbocharger

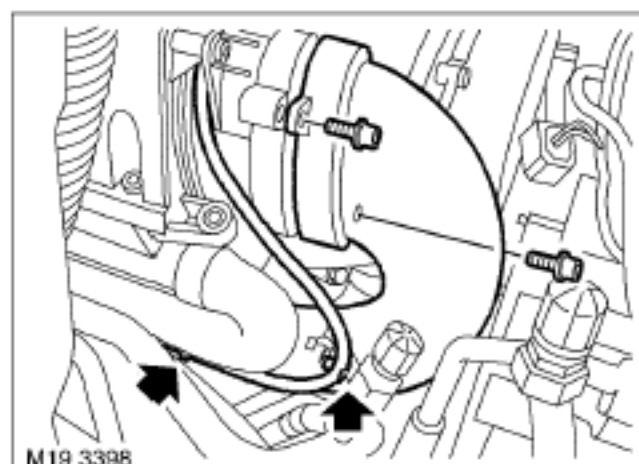
**19.42.11**

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

**GENERAL INFORMATION, Electrical Precautions.**

### Remove

1. Disconnect battery earth lead.
2. Remove engine cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
3. Release intake duct from air cleaner housing and tie aside.




4. Release vacuum hose from clips on duct.
5. Remove 2 Allen screws securing turbocharger intake duct to air cleaner housing.
6. Release duct from turbocharger and remove with breather hose.
7. Remove breather hose from duct.


### Refit

1. Fit breather hose to duct.
2. Fit duct and connect to turbocharger and air cleaner.
3. Connect breather hose to air cleaner.
4. Fit Allen screws securing turbocharger duct to air cleaner and tighten to 8 Nm (6 lbf.ft).
5. Fit vacuum hose to clips.
6. Fit intake duct to air cleaner.
7. Fit engine cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
8. Connect battery earth lead.

### Refit

1. Clean EGR valve and mating face.
2. Fit new 'O' ring to cooler.
3. Fit EGR valve and tighten bolts to 10 Nm (7 lbf.ft).
4. Connect hose to vacuum pump and secure with clip.
5. Connect coolant hose to EGR thermal valve and secure with clip.
6. Fit engine access cover.
7. Connect battery earth lead.
8. Refill cooling system.

 **ENGINE - Td6, REPAIRS, Cover - engine access.**

 **COOLING SYSTEM - Td6, ADJUSTMENT, Coolant - drain and refill.**


### Cooler - exhaust gas recirculation (EGR)

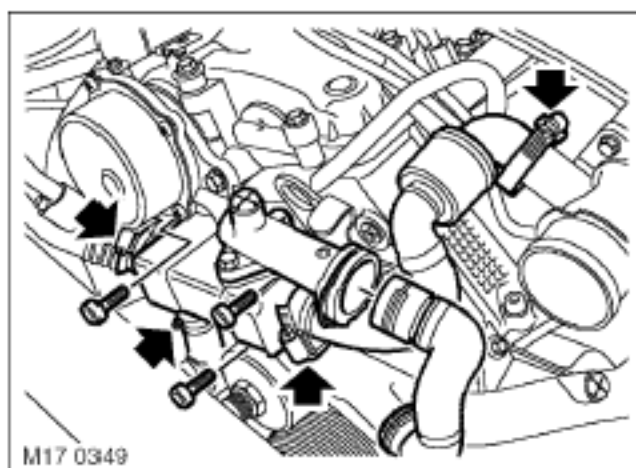
 **17.45.40**

Before disconnecting the battery, ensure all text and cautions in the battery disconnection section are observed.

 **GENERAL INFORMATION, Electrical Precautions.**

### Remove

1. Disconnect battery earth lead.
2. Remove viscous coupling.  
 **COOLING SYSTEM - Td6, REPAIR, Coupling unit - viscous fan.**
3. Position container to collect coolant.



4. Loosen clip and disconnect coolant hose from EGR cooler.

**CAUTION: Always fit plugs to open connections to prevent contamination.**



5. Release clip and disconnect coolant hose from EGR thermal valve.
6. Loosen and remove clamp securing EGR pipe to EGR valve.
7. Loosen and release clamps securing EGR pipes to EGR cooler.
8. Remove 3 Allen screws securing EGR cooler and remove cooler assembly.
9. Remove clamp securing pipe to cooler and remove pipe.

*NOTE: Do not carry out further dismantling if component is removed for access only.*

10. Remove 2 bolts securing thermal valve to EGR cooler and remove valve. Discard 'O' ring.



**Refit**



1. Clean valve and mating face.
2. Fit new 'O' ring to cooler.
3. Fit valve and tighten bolts to 10 Nm (7 lbf.ft).
4. Clean EGR cooler and mating face.
5. Fit EGR cooler, fit Allen screws but do not tighten at this stage.
6. Clean EGR pipe and mating faces.
7. Fit EGR pipe, fit clamps and tighten screws.
8. Tighten Allen screws securing EGR cooler to 25 Nm (18 lbf.ft).
9. Connect coolant hose to thermal valve and secure with clip.
10. Connect coolant hose to EGR cooler and tighten clip.
11. Fit viscous coupling.  
 **COOLING SYSTEM - Td6, REPAIR, Coupling unit - viscous fan.**
12. Connect battery earth lead.
13. Refill cooling system.  
 **COOLING SYSTEM - Td6, ADJUSTMENT, Coolant - drain and refill.**



## Coupling unit - viscous fan

26.25.19

### Remove

1. Disconnect battery earth lead.
2. Remove undertray.  
 **EXTERIOR FITTINGS, REPAIRS, Undertray - front.**
3. Remove engine cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**



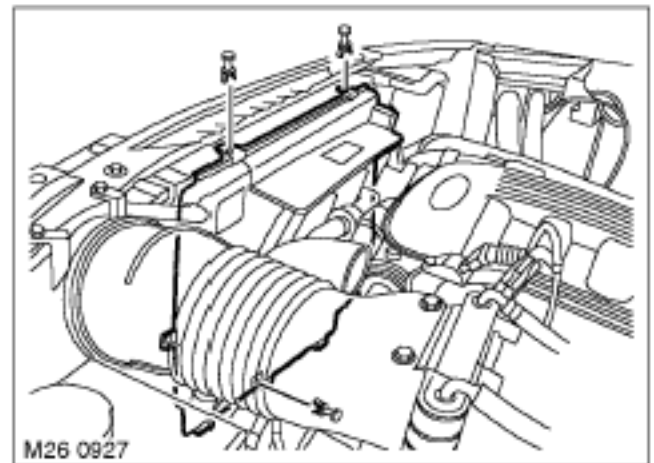
4. Loosen clip and disconnect air intake hose from EGR valve.
5. Position hose aside.



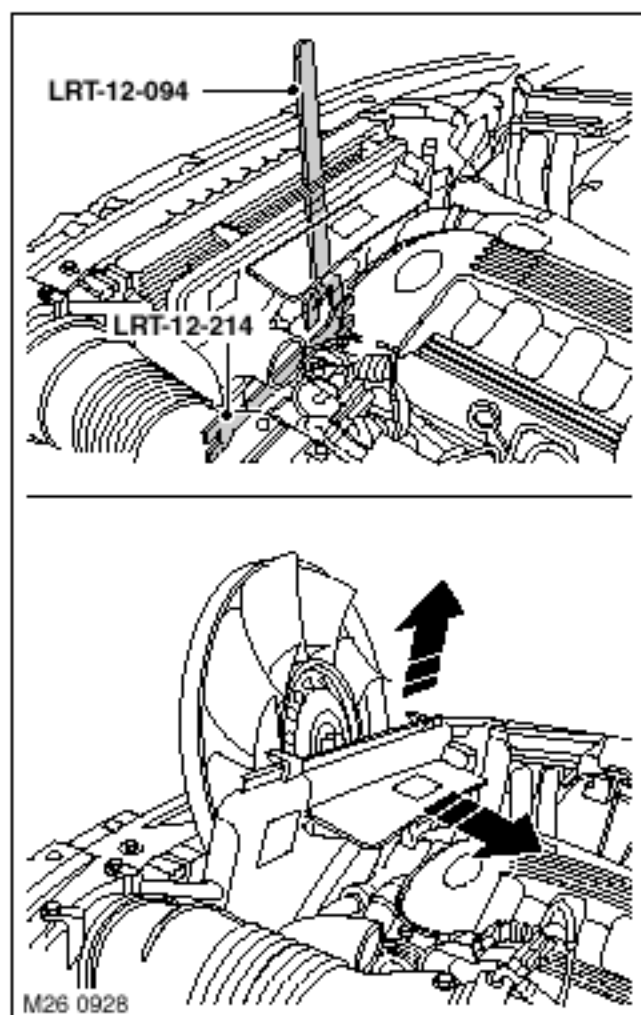
6. Release coolant hose from clip on cowl.  
**CAUTION:** The radiator matrix is a fragile component, to prevent damage do not allow the fan or fan cowl to contact the radiator.





7. Release cooling fan multiplug and harness from fan cowl.



8. Release 2 scrivenets from the top of the fan cowl and 1 scrivet from the bottom, securing fan cowl to cooling pack.
9. Release the lugs securing the fan cowl, at the sides and base, to the radiator pack by lifting vertically. Move the captive fan cowl rearward for access to the viscous coupling locking nut.  
*NOTE: Do not carry out further dismantling if component is removed for access only.*



### Refit

1. Clean coupling and fan mating faces.
2. Fit coupling to fan and tighten bolts to 10 Nm (7 lbf.ft).
3. Position the fan cowl to the radiator pack, but do not secure at this stage.
4. Fit fan to pulley and tighten viscous coupling nut to 45 Nm (33 lbf.ft).
5. Fit and secure fan cowl to the cooling pack.
6. Secure the fan cowl with scrivenets.
7. Fit harness and multiplug to cowl.
8. Fit coolant hose into clip.
9. Fit the air intake hose to the EGR Valve and secure with clip.
10. Fit engine cover.  
 **ENGINE - Td6, REPAIRS, Cover - engine access.**
11. Fit undertray.  
 **EXTERIOR FITTINGS, REPAIRS, Undertray - front.**
12. Connect the battery earth lead.

10. Use **LRT-12-094** and **LRT-12-214** to loosen viscous coupling lock nut and release fan assembly from coolant pump.

*NOTE: Thread is left handed.*

11. Remove cooling fan assembly.
12. Remove fan cowl.



13. Remove 4 bolts and remove coupling from fan.